

REMARKS

This application has been reviewed in light of the Office Action dated June 3, 2005. Claims 1, 2, 5, 6, 7, and 8 are presented for examination (Claims 3 and 4 were withdrawn from consideration). Claims 1 and 2 have been amended to define still more clearly what Applicants regard as their invention. Claims 1 and 2 are in independent form. Favorable reconsideration is requested.

In the present Office Action, Claims 1 and 2 were rejected under 35 U.S.C. §102(e) as anticipated by U.S. Patent Application Publication No. 2002/0192935 (Joshi et al.) and Claims 5-8 have been rejected under 35 U.S.C. § 103(a) as being obvious over that reference.

The present invention provides a novel envelope structure whose inside is maintained in reduced pressure atmosphere (preferably, in high vacuum) and which can maintain its airtightness and unbreakable quality, as described from page 4, line 21, to page 5, line 14 of the present application. Claims 1 and 2 have been amended to recite that the inside of the envelope is maintained in reduced pressure atmosphere. It is believed that Claims 1 and 2 are patentable over Joshi et al., for the reasons stated below.

Joshi et al. discloses a technique for bonding a conductive region 12 and a conductive column 20 to each other using a solder joint 35 in order to improve the electron conductive connection between a semiconductor substrate (a semiconductor die) and a carrier (or a circuit substrate). In the technique of Joshi et al., PbSn and InSb are disclosed as materials of the solder joint 35 (paragraph [0029]), and metals such as aluminum,

copper, nickel or gold are identified as examples of materials of the conductive region 12 (paragraph [0019]). In addition, an arrangement in which part of the conductive region 12 is covered with a passive layer 14 is disclosed (Fig. 1-(i)). As materials of the passive layer 14, there are disclosed silicon nitride, glass and polyimide, which are different from the materials of the conductive region 12. However, in Joshi et al. the bonding structure is described as improving the electron conductive connection between the semiconductor substrate (the semiconductor die) and the semiconductor substrate carrier (or the circuit substrate), as described in paragraph [0003]. While Joshi et al. may refer to the electro conductive connection, the reference neither teaches nor suggests providing an airtightness and bonding ability as in the present invention. Indeed, nothing has been found, or pointed out, in Joshi et al. that would disclose or suggest a structure for seal bonding an envelope whose inside is maintained in reduced pressure atmosphere, as recited in Claims 1 and 2.

In view of the foregoing, it is respectfully submitted that Claims 1 and 2 are clearly patentable over Joshi et al. Therefore, it is respectfully requested that the rejection based on that reference be withdrawn.

A review of the other art of record has failed to reveal anything which, in Applicants' opinion, would remedy the deficiencies of the art discussed above, as a reference against the independent claims herein. Those claims are therefore believed patentable over the art of record.

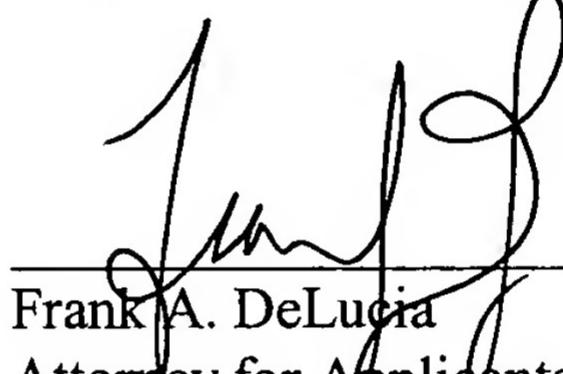
The other claims in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of

the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,



Frank A. DeLucia
Attorney for Applicants
Registration No. 42,476

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3801
Facsimile: (212) 218-2200

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